AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

What is claimed is:

1. (currently amended) An arteriovenous shunt comprising:

a. an arterial graft comprising a body, a lead end and a terminal end, said lead end being configured for subcutaneous connection to an artery by anastomosis, wherein said arterial graft has a first diameter; and

b. a single lumen venous outflow catheter comprising an intake end and depositing end, said depositing end being configured for insertion through a vein into the right atrium of the heart, wherein said venous outflow catheter has a second diameter different from said first diameter; and

c. a cylindrical cuff operable to direct passage of blood from said arterial graft to said venous outflow catheter, said cuff comprising an inlet in fluid communication with an outlet:

i. said inlet being disposed about and connected to said terminal end of said arterial graft; and

ii. said outlet being disposed about and connected to said intake end of said venous outflow catheter;

wherein said cuff defines a graded inside diameter to provide a secure fit for said arterial graft first diameter and said venous outflow catheter second diameter.

2. (previously presented) The arteriovenous shunt of claim 1 wherein said arterial graft is made of a biocompatible flexible material.

3. (original) The arteriovenous shunt of claim 2, wherein said biocompatible flexible material is polytetrafluoroethylene (PTFE) or polyurethane.

4. (original) The arteriovenous shunt of claim 1, wherein said arterial graft has a diameter from about 2 mm to about 8 mm and a length from about 20 cm to about 60 cm.

5. (original) The arteriovenous shunt of claim 4, wherein said arterial graft has a diameter of from about 6 mm to about 8 mm and a length of about 40 cm.

6. (original) The arteriovenous shunt of claim 1, wherein said artery is the brachial, axillary, femoral or external iliac artery.

7. (previously presented) The arteriovenous shunt of claim 1, wherein said cuff is polytetrafluoroethylene or polyethylene terephthalate.

8. (original) The arteriovenous shunt of claim 1, wherein said venous outflow catheter has a diameter from about 1 mm to about 7 mm and a length of from about 20 cm to about 80 cm.

9. (original) The arteriovenous shunt of claim 1, wherein said venous outflow catheter has a diameter from about 5 mm to about 7 mm and a length of from about 40 cm to about 60 cm.

10. (original) The arteriovenous shunt of claim 1, wherein said venous outflow catheter is made of polyurethane or silicone.

11. (original) The arteriovenous shunt of claim 1, wherein said vein is the cephalic, axillary, jugular, femoral or external iliac vein.

12. (previously presented) The arteriovenous shunt of claim 1, wherein said venous outflow catheter has a diameter of about 1 mm smaller than said arterial graft.

13. (currently amended) A system for performing hemodialysis on a patient comprising:

a. an arteriovenous shunt comprising:

i. an arterial graft comprising a body, a lead end and a terminal end, said lead end being configured for subcutaneous connection to an artery by anastomosis, wherein said arterial graft has a first diameter; and

ii. a single lumen venous outflow catheter comprising an intake end and depositing end, said depositing end being configured for insertion through a vein into the right atrium of the heart, wherein said venous outflow catheter has a second diameter different from said first diameter; and

iii. a cylindrical cuff operable to direct passage of blood from said arterial graft to said venous outflow catheter, said cuff comprising an inlet in fluid communication with an outlet:

1. said inlet being disposed about and connected to said terminal end of said ~~subcutaneous~~ graft; and

2. said outlet being disposed about and connected to said intake end of said venous outflow catheter; wherein said cuff defines a graded inside diameter to provide a secure fit for said arterial graft first diameter and said venous outflow catheter second diameter;

and

b. a hemodialysis apparatus.

14. (previously presented) The system according to claim 13, wherein said venous outflow catheter has a diameter of about 1 mm smaller than said arterial graft.

15. (original) The system according to claim 13, wherein said artery is the brachial, axillary, femoral or external iliac artery.

16. (original) The system according to claim 13, wherein said vein is the cephalic, axillary, jugular, femoral or external iliac vein.

17. (currently amended) A method of performing hemodialysis on a patient comprising:

a. surgically inserting an arteriovenous shunt into a patient, wherein said arteriovenous shunt comprises:

i. an arterial graft comprising a body, a lead end and a terminal end, said lead end being configured for subcutaneous connection to an artery by anastomosis, wherein said arterial graft has a first diameter; and

ii. a single lumen venous outflow catheter comprising an intake end and depositing end, said depositing end being configured for insertion through a vein into the right atrium of the heart, wherein said venous outflow catheter has a second diameter different from said first diameter; and

iii. a cylindrical cuff operable to direct passage of blood from said arterial graft to said venous outflow catheter, said cuff comprising an inlet in fluid communication with an outlet:

1. said inlet being disposed about and connected to said terminal end of said arterial graft; and

2. said outlet being disposed about and connected to said intake end of said venous outflow catheter, wherein said cuff defines a graded inside diameter to provide a secure fit for said arterial graft first diameter and said venous outflow catheter second diameter;

b. connecting said arterial graft to a hemodialysis apparatus;

c. collecting blood from the patient through said arterial graft;

d. passing said blood through the hemodialysis apparatus;

e. collecting purified blood from hemodialysis apparatus; and

f. transmitting said purified blood through said cuff into said venous outflow catheter.

18. (previously presented) The method according to claim 16 wherein said venous outflow catheter has a diameter of about 1 mm smaller than said arterial graft.

19. (original) The method according to claim 16, wherein said artery is the brachial, axillary, or femoral, external iliac artery.

20. (original) The method according to claim 16, wherein said vein is the axillary, jugular, femoral or external iliac vein.